

CLAIMS

1. A substrate suitable for printing a toner image thereon, comprising:
printing media;

5 an overlayer coating, having an outer surface to which a toner image can be fused and
fixed, the overlayer coating comprising an overlay polymer chosen from the group consisting
of ethylene acrylic acid copolymer, polyvinyl pyridine and styrene butadine copolymer,
wherein the overlayer is one or both of substantially free of particulate matter and
substantially wax and pigment free.

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2. A substrate according to claim 1 wherein the overlayer is substantially free of
particulate matter.

15 3. A substrate according to claim 1 wherein the overlayer is substantially wax and
pigment free.

4. A substrate according to claim 3 wherein the overlayer is substantially free of
particulate matter.

20 5. A substrate according to claim 1 wherein the printing media is paper.

6. A substrate according to claim 1 wherein the printing media is plastic.

7. A substrate according to claim 6 wherein the plastic is polyethylene.

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8. A substrate according to claim 6 wherein the plastic is vinyl.

9. A substrate according to claim 6 wherein the plastic is polycarbonate.

30 10. A substrate according to claim 6 wherein the plastic is polyethylene terephthalate (PET).

11. A substrate according to claim 6 wherein the plastic is BOPP (biaxially oriented polypropylene film).

12. A substrate according to claim 1 and including an underlayer coating between 5 the overlayer and the printing media, the underlayer coating providing enhanced adhesion of the overlayer to the media.

13. A substrate according to claim 13 wherein the underlayer comprises amine terminated polyamide.

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14. A substrate according to claim 13 wherein the underlayer comprises amino propyl triethoxy silane or reaction products of amino propyl trichoxy silane.

15. A substrate according to claim 13 wherein the underlayer has a weight of 15 between 0.1 and 1 grams per square meter.

16. A substrate according to claim 15 wherein the underlayer has a weight of between about 0.3 and 0.5 grams per square meter.

20 17. A substrate according to claim 1 wherein the underlayer is free of particulate matter.

18. A substrate according to claim 13 consisting of only two coating layers.

25 19. A substrate suitable for printing a toner image thereon, comprising:
paper printing media; and
an overlayer coating, having an outer surface to which a toner image can be fused and fixed, the coating comprising a overlayer polymer chosen from the group consisting of ethylene acrylic acid copolymer, polyvinyl pyridine and styrene butadine copolymer.

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20. A substrate according to claim 1 or claim 19 wherein the overlayer comprises styrene butadiene coplymer.

21. A substrate according to claim 1 or claim 19 wherein the overlayer comprises ethylene
5 acrylic acid copolymer.

22. A substrate according to claim 21 wherein the ethylene acrylic acid copolymer has an acrylic acid comonomer percentage weight of between 8% and 18%.

10 23. A substrate according to claim 21 wherein the ethylene acrylic acid copolymer has an acrylic acid comonomer percentage weight of between 12% than 16%.

24. A substrate according to claim 22 wherein the acidity of the copolymer has been reduced.

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25. A substrate according to claim 24 wherein the acidity of the copolymer has been reduced by saponification.

20 26. A substrate according to claim 1 or claim 19 wherein the overlayer comprises polyvinyl pyridine.

27. A substrate according to claim 1 or claim 19 wherein the overlayer has a weight of between 0.1 and 10 grams per square meter.

25 28. A substrate according to claim 27 wherein the overlayer has a weight of between 0.2 and 2 grams per square meter.

29. A substrate according to claim 28 wherein the overlayer has a weight of between about 0.25 and about 0.35 grams per square meter.

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30. A substrate according to claim 19 and including an underlayer coating between the overlayer and the substrate, the underlayer coating providing enhanced adhesion of the overlayer to the substrate.

5 31. A method of producing a coated substrate which a toner image can be adhered comprising:

providing a printing media; and

10 overcoating the media with an overlayer coating, the overlayer coating comprising a second polymer material and having an outer surface to which a toner image can be fused and fixed, the second polymer comprising a polymer chosen from the group consisting of ethylene acrylic acid copolymer, polyvinyl pyridine and styrene butadine copolymer,

wherein the overlayer coating is one or both of substantially wax and pigment free or substantially free of particulate matter.

15 32. A method of producing a coated substrate which a toner image can be adhered comprising:

providing a paper substrate; and

20 coating the paper substrate with an overlayer coating, the overlayer coating comprising a polymer material and having an outer surface to which a toner image can be fused and fixed, the polymer material comprising a polymer chosen from the group consisting of ethylene acrylic acid copolymer, polyvinyl pyridine and styrene butadine copolymer.

33. A printing method comprising:

providing a substrate according to claim 1 or claim 19; and

25 printing a toner image on the substrate.

34. A printing method according to claim 33 wherein the toner image is a liquid toner image.

30 35. A printing method according to claim 34 wherein printing comprises transferring the toner image to the substrate using heat and pressure.

36. A printing method according to claim 33 wherein printing comprises electrostatically transferring the toner image to the substrate.

37. A printing method according to claim 33 and comprising:

5 forming the image on an image forming surface;

transferring the image from the image forming surface to an intermediate transfer member; and

transferring the image from the intermediate transfer member to the substrate.